

1. (Currently Amended) ~~Gene~~ A gene transfer vector which contains

a) a transgene and

b) a nucleic acid sequence coding for a surface marker,

characterized in that the surface marker is the CD34 surface antigen or a fragment of the same or a variant of the same.

2. (Currently Amended) ~~Vector~~ The vector according to claim 1, characterized in

that the nucleic acid sequence codes for a surface marker in accordance with SEQ ID NO:2, 4 or 6 or for a fragment or a variant of the same.

3. (Currently Amended) ~~Vector~~ The vector according to Claim 1, characterized in

that the nucleic acid sequence codes for the surface marker is the sequence indicated in SEQ ID NO: 1, 3 or 5 or for a fragment, a mutant or variant of the same.

4. (Currently Amended) ~~Vector~~ The vector according to Claim 1, characterized in

that it is a retroviral vector.

5. (Currently Amended) ~~Vector~~ The vector according to Claim 1, characterized in

that it contains a nucleic acid sequence coding for a further surface marker.

6. (Currently Amended) ~~Vector~~ A vector with the accession no. DSM 13396.

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7. (Currently Amended) ~~Vector~~ A vector characterized in that it contains a nucleic acid sequence coding for the amino acid sequence according to SEQ ID NO:6, a fragment or a variant of the same.

8. (Currently Amended) ~~Vector~~ A vector according to claim 7, characterized in that it contains the nucleic acid sequence according to SEQ ID NO:5, a fragment, a mutant or a variant of the same.

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9. (Currently Amended) ~~Host~~ An isolated host cell, characterized in that it is transduced with a vector according to Claim 1.

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10. (Currently Amended) ~~Host~~ The isolated host cell according to claim 9, characterized in that it is a human cell.

11. (Currently Amended) ~~Host~~ The isolated host cell according to claim 10, characterized in that it is a T-lymphocyte.

12. (Previously Amended) Method for the detection of genetically modified cells, characterized in that the cells are transduced with a vector according to Claim 1 and the transduced cells are identified by detection of the surface marker.

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13. (Previously Amended) Method for the selection of genetically modified cells, characterized in that the cells are transduced with a vector according to Claim 1, bound

to an agent specific to the surface marker, and separated from the genetically unmodified cells.

31 14. (Original) Method for the detection and analysis of cells, characterized in that the cells are transduced with a vector which contains a nucleic acid sequence coding for the surface marker CD34, a fragment of the same or a variant of the same, and the transduced cells are identified by detection of the surface marker, in which the cells do not naturally express CD34, a fragment or a variant of the same.

15. (Original) Method for enriching cells which do not naturally express CD34, a fragment or a variant of the same, characterized in that the cells are transduced with a vector which contains a nucleic acid sequence coding for the surface marker CD34, a fragment of the same, or a variant of the same, and the transduced cells are bound to an agent specific to the surface marker, and separated from the cells which do not express the surface marker.

16. (Previously Amended) Method according to Claim 14, characterized in that the nucleic acid sequence codes for a surface marker according to SEQ ID NO: 2, 4 or 6 or for a fragment or a variant of the same.

17. (Previously Amended) Method according to Claims 14, characterized in that the nucleic acid sequence coding for the surface marker is the sequence indicated in SEQ ID NO: 1, 3 or 5 or a fragment, mutant or variant of the same.

18. (Previously Amended) Method according to Claim 14, characterized in that the vector is a retroviral vector.

19. (Previously Amended) Method according to Claim 14, characterized in that the vector corresponding to DSM 13396 is used.

20. (Previously Amended) Method according to Claim 12, characterized in that the cells are human cells.

21. (Original) Method according to Claims 20, characterized in that the cells are T-lymphocytes.

22. (Previously Amended) Kit containing a vector according to Claim 1 and means for the specific detection of a surface marker, and further agents and aids required for carrying out a detection.

23. (Previously Amended) Kit containing a vector of Claim 14 and, means for the specific detection of a surface marker and further agents and aids required for carrying out a detection.

26. (Previously Amended) Use of a vector according to Claim 1 for *in vitro* transduction of T-lymphocytes.

27. (Previously Amended) Use of a vector according to Claim 1 for gene therapeutic treatment.

28. (Previously Amended) Use of T-lymphocytes which are transduced with a vector according to Claim 1, for gene therapeutic treatment.

29. (Original) Use of a vector which contains a nucleic acid sequence coding for the surface marker CD34, a fragment of the same or a variant of the same, for enrichment, detection and analysis of cells *in vitro* that do not naturally express CD34, a fragment or a variant of the same.

31. (Previously Amended) Gene therapeutic drug, containing a vector according to Claim 1.

32. (Previously Amended) Gene therapeutic drug, containing T-lymphocytes, which are transduced with a vector according to Claim 1.

33. (Original) Use of a nucleic acid sequence (marker gene) coding for the CD34 surface antigen or a fragment of the same or a variant of the same (marker) for the detection of genetically modified cells, characterized in that the nucleic acid sequence is incorporated into a gene transfer vector used for genetic modification, which contains a nucleic acid sequence (transgene) to be transferred into the cells, whereby the marker

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gene is chosen so that the marker is expressed on the surface of the cells to be transduced with the vector, whereby the transduced cells are identified by specific detection of the markers.

34. (Original) Use of a nucleic acid sequence (marker gene) coding for the CD34 surface antigen or a fragment of the same or a variant of the same (marker) for the detection of cells which do not naturally express CD34, a fragment or variant of the same, characterized in that the nucleic acid sequence is incorporated into a vector, wherein the marker gene is chosen, so that the marker is expressed on the surface of the cells transduced with the vector, in which the transduced cells are identified by specific detection of the marker.